

## PLANTAE PAPUANAE ARCHBOLDIANAE, V\*

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## RUTACEAE

IN THIS PAPER we propose only to record a number of apparently new species and a few range-extensions which have appeared in our effort to name the Rutaceae (excluding the Aurantioideae) of the Archbold collections. By far the major part of the material belongs to the *Evodia-Melicope-Acronychia* group of genera. Although, in Engler's classification, the last genus is placed in another section (with indehiscent fruit) far from the *Evodia-Melicope* relationship, it is to be remembered that species have been transferred from both of these genera to *Acronychia*. In most instances it has been relatively easy to separate *Evodia* from *Melicope*, the former having only four stamens, the latter eight. Unless the fruit is fully mature, the genus may be distinguished from the number or the position of the stamens persisting somewhere on the infructescence. To separate *Acronychia* with dehiscent fruit is another problem. Here are either four stamens (as in *Evodia*) or eight (as in *Melicope*) with filaments glabrous or hairy within toward the base. After scanning our meager material and the descriptions of the species from Australia and Polynesia included in *Acronychia*, it seemed the one differential character was probably the compound ovary. Yet, after examining the collections from the Solomon Islands, some of which show fruits with carpels united to the apex and more or less deeply lobed, others with carpels united halfway to the apex, some with four stamens, others with eight, and some staminate material with rudimentary carpels below the level of the disk, we have decided that our material is too scanty for us to make more than a provisional assignment. We believe this material to be more closely allied to *Evodia* and *Melicope* than to *Acronychia*, although possibly it belongs to a section of *Acronychia* with small flowers and thin dehiscent capsules.

**Zanthoxylum L.****Zanthoxylum Dominicanum** nom. nov.

*Fagara varians* Domin, *Bibl. Bot.* 89: 846. 1927.

BRITISH NEW GUINEA: Western Division, Lower Fly River, east

\*(Botanical Results of the Richard Archbold Expeditions) See *Jour. Arnold Arb.* 20: 324-345. 1939; op. cit. 21: 163-200, *t. 1.* 1940; op. cit. 292-327; op. cit. 511-527.

bank opposite Sturt Island, *Brass 8060*, October 1936, common on ridges in rain-forest (weak undergrowth tree 2–3 m. high; leaves aromatic; flowers white); Wassi Kussa River, Tarara, *Brass 8507*, December 1936, common at margin of rain-forest (shrub or small tree 1.5–5 m. high, leaves greyish above; flowers white).

These staminate collections appear to agree reasonably well with Domin's description of this Queensland species. One leaf of *Brass 8060* has a terminal leaflet 18 cm. long, 7 cm. broad, but both plants are surely conspecific and the other number falls well within the limits of *Z. Dominicanum*. This species is very closely allied to the Malaysian *Z. ovalifolium* Wight. The specific name *varians* is pre-empted in the genus *Zanthoxylum*.

**Zanthoxylum Rhetsa** (Roxb.) DC. Prodr. 1: 728. 1824; Merr. Enum. Philip. Fl. Pl. 2: 327. 1923.

*Fagara Rhetsa* Roxb. Fl. Ind. 1: 438. 1820; Koord. & Val. Atlas Baumart. Java 2: t. 352. 1914.

SOLOMON ISLANDS: Ysabel Island, Sigana, *Brass 3449*, January 1933, alt. 100 m., hill rain-forests (large wide spreading tree with pale fissured bark and very bright yellow wood; leaves with pale nerves; flowers white).

We have assigned this collection to the Malaysian *Zanthoxylum Rhetsa* (Roxb.) DC. as interpreted in its broader sense. Possibly more mature material will prove it to be a distinct species.

Belonging in this same alliance but surely not identical with it is the following collection from British New Guinea: Western Division, Mabaduan, *Brass 6491*, April 1936, very common monsoon-forest sub-stage tree (20 m. high, crown somewhat spreading; bark pale brown, inner bark and wood yellow; lower part of stem covered with large limpet-like thorny processes; small red aromatic fruit; seeds black). The fruit is about 7 mm. long, the epicarp is densely glandular-pustulate; the thorny processes are 3–3.5 cm. diameter at the base; the leaves have 5–8 pairs of obliquely ovate to elliptic leaflets.

**Zanthoxylum conspersipunctatum** sp. nov.

Arbor gracilis, 5 m. alta; ramulis parce aculeatis; foliis 2–4-jugis, pari- atque impari-pinnatis; petiolo ac rhachi 6.5–19 cm. longis, glabris; foliolis petiolulatis (petiolulis 3–6 mm. longis), tenuiter coriaceis, superioribus oblongis, inferioribus ovato-ellipticis, 4–12 cm. longis, 1.5–4 cm. latis, basi oblique rotundatis ad suboblique cuneatis, apice acuminatis (acumine  $\pm$  1 cm. longo), margine crenulatis, utrinque

glabris, consperse pellucido-punctatis (glandulis magnis, interdum sine lente manifestis), costa subtus prominente; venis primariis utrinsecus 9–11, patenti-adscedentibus, prope marginem arcuatim anastomosantibus, supra manifestis subtus perspicuis; venulis laxe reticulatis, utrinque  $\pm$  manifestis; paniculis terminalibus, quam foliis brevioribus, glabris; pedicellis brevissimis; calyce ultra medium 4-lobato, lobis vix 1 mm. longis, ovatis, acutiusculis; petalis 4 mm. longis, vix 1.5 mm. latis; staminibus 4 cum petalis alternantibus; filamentis 3.5 mm. longis, subapplanatis; antheris ellipsoideis, 2 mm. longis; ovario ovato, disco inconspicuo obtuso, 1 mm. longo; stylo terminali sed excentrico, brevissimo.

NETHERLANDS NEW GUINEA: Bele River, 18 km. northeast of Lake Habbema, *Brass 11579* (TYPE), November 1938, alt. 2300 m., one plant in forest undergrowth (slender tree 5 m. high; flowers white).

The species belongs to the section *Blackburnia* (Forst.) Engler. The leaves are mostly even pinnate, exceedingly variable in size, but all have the somewhat scattered large pellucid glands. Possibly its alliance is with *Z. parviflorum* Benth.

### **Evodia** Forst.

*Evodia* Forst. with 33 already published species is the largest genus of the Rutaceae in Papuasias. We add here 12 more species. Lauterbach's key to the genus is divided into series based on foliar characters. In our material it appears as if a fairly logical division of the genus might be made on the size of the flowers and the cocci. The latter in the larger-flowered species are often sericeous-pubescent within.

#### **Evodia oligantha** sp. nov.

Arbor parva, 3–5 m. alta; ramulis novellis obtuse quadrangularibus, valde compressis, glabris, in sicco rubiginosis; foliis ternatis; petiolo 1–1.5 cm. longo, glabro, supra applanato; foliolis petiolulatis (petiolulis circiter 4–6 mm. longis, glabris, canaliculatis), coriaceis, olivaceis, late lanceolatis vel leviter oblanceolatis, 3.5–7 cm. longis, 1.5–3 cm. latis, basi acute cuneatis, apice acutiusculis vel breviter obtuse acuminatis, utrinque glabris, novellis copiose glanduloso-punctatis; venis primariis utrinsecus 8–12, supra inconspicuis, subtus manifestis, subhorizontalibus prope marginem arcuatim anastomosantibus; venulis laxe reticulatis; paniculis axillaribus, 5–8 cm. longis, paucifloris, habitu subumbellatis; pedunculis 3.5–5 cm. longis; ramulis brevibus, basi bracteatis (bracteis foliiformibus, usque 2 cm. longis, 7 mm. latis, basi angustatis); pedicellis 4 mm. longis, glabris; sepalis liberis, concavis, late rotundatis, 3 mm.

longis, 4 mm. latis, glanduloso-pustulatis; petalis 6–7 mm. longis, 3 mm. latis, apice inflexo-apiculatis, extus consperse glanduloso-pustulatis, intus basim versus puberulis; staminibus circiter 5 mm. longis, filamentis ad basim (1 mm. latis) parce pilosulis, ad apicem (0.6 mm. latis) glabris, antheris 1.5 mm. longis; disco glabro, crasso, 1 mm. alto; carpellis 4, usque  $\frac{1}{3}$  longitudinem connatis, glabris; stylis connatis, 0.5 mm. longis, glabris; stigmatе capitato, inconspicue 4-lobato.

NETHERLANDS NEW GUINEA: Lake Habbema, *Brass 9365* (TYPE), August 1938, alt. 3225 m., one of the smaller and least common trees in closed forest (3–5 m. high; flowers green).

This interesting species is readily distinguished from the other members of the genus in New Guinea by the long-peduncled and relatively few-flowered inflorescences with leaf-like bracts subtending the short branches, and by the almost glabrous floral parts.

### ***Evodia crispula* sp. nov.**

Arbor probabiliter; ramulis ad apicem minute tomentosus, mox glabratis, ad nodos valde compressis; foliis ternatis; petiolo 4–8 cm. longo, supra subcanaliculato, tomentuloso ad glabrato; foliolis petiolulatis (petiolulis 5–9 mm. longis, canaliculatis, tomentulosis), coriaceis, ellipticis (in specimine typico 9–14 cm. longis, 3.5–7 cm. latis), basi subrotundatis vel obtusis, interdum cuneatis, apice acuminatis, minute pellucido-punctatis, supra glabris, subtus praecipue in costa atque venis primariis crispule stellato-pilosulis; venis primariis utrinque 14–16, supra impressis, subtus prominulis, oblique adscendentibus, prope marginem arcuatim confluentibus; venulis vix manifestis; paniculis saepissime ex axillis foliorum delapsorum ortis, 5–7 cm. longis pedunculo 2–2.5 cm. longo incluso, multifloris; axi, ramulis pedicellisque tomentulosus ad dense puberulis; sepalis 1.2 mm. longis, ad basim connatis, apice rotundatis, puberulis; petalis 5 mm. longis, 3 mm. latis, apice inflexo-apiculatis, extus puberulis, intus dense sericeo-pubescentibus; staminibus 4, filamentis 8–9 mm. longis, intus in parte inferiore piloso-tomentulosus; antheris circiter 2 mm. longis; disco vix 1 mm. alto, tomentoso, subangulato; ovario 4-partito, villosulo; stylo 4.5 mm. longo, pubescente; fructibus ignotis.

NORTHEASTERN NEW GUINEA: Morobe District, Ogeram nang, *Clemens 6357* (TYPE), 5155, May and January 1937, alt.  $\pm$  1750 m.

Possibly *Clemens 5921*, Ogeram nang, and *Clemens 2238*, Quembung, also belong here. Both have very immature flowers; the leaves are much larger (13–19 cm. long, 7.5–9.5 cm. broad) but similar in outline and in the somewhat crisped stellate pubescence on the lower surface.

The flower of *Evodia crispula* is very much like that of *E. trichopetala* Lauterb. in that the petals are hairy on both sides, the lower half of the inner surface of the filaments is clothed with more or less tangled hairs, the disk is tomentose and the carpels are short villous. The latter species, however, is glabrous in all the vegetative characters.

***Evodia trichopetala*** Lauterb. Nov. Guin. 14: 139. 1924.

NETHERLANDS NEW GUINEA: 9 km. northeast of Lake Habbema, Brass & Versteegh 10457, 10457a, Brass 10709, October 1938, alt. 2830 m., 2750 m., 2800 m. respectively, common in secondary forest (tree 12–18 m. high; flowers red); Bele River, 18 km. northeast of Lake Habbema, Brass 11378, November 1938, alt. 2200 m., secondary rain-forest near river (tree 10 m. high; flowers red).

These collections have elliptic rather than lanceolate leaflets, sepals almost 2 mm. long and a style only 3 mm. long. Yet, in view of the agreement of the other floral and foliar characters with the original description, we have assigned the collections to this species. The fruit of 10457a is about mature. The cocci, 8 mm. long, are already open, the exocarp is 1 mm. thick, closely and longitudinally rugose, glabrous and densely glandular, the inner surface of the endocarp is yellowish with a sericeous pubescence. The seeds are black, shining, 5 mm. long, and somewhat obliquely ovoid.

Possibly Brass & Versteegh 11998 also belongs here. The specimen shows young fruit. The leaflets are lanceolate, not so distinctly coriaceous, and dull.

***Evodia rosea*** sp. nov.

Arbor; ramulis teretibus ad nodos leviter compressis, glabris, innovationibus minute pubescentibus, mox glabratis; foliis ternatis; petiolo 3–6 cm. longo, puberulo vel glabro, supra applanato; foliolis pedicellatis (pedicellis 6–15 mm. longis), chartaceis ad subcoriaceis, oblongo-ellipticis ad obovato-ellipticis, 6–12 cm. longis, 3–6 cm. latis, basi cuneatis, apice obtusis vel rotundatis, utrinque (maturis) glabris; venis primariis utrinsecus 10–14, manifestis (non prominulis), oblique ascendentibus, prope marginem arcuatim confluentibus; venulis reticulatis, leviter manifestis; paniculis axillaribus, praecipue ex axillis foliorum delapsorum ortis, usque 5 cm. longis latisque; axi superiore, ramulis pedicellis fulvo-puberulis; pedicellis  $\pm$  5 mm. longis; sepalis ad basim connatis, 1.5 mm. longis, ovatis, obtusiusculis, utrinque puberulis; petalis 4 mm. longis, 2 mm. latis, apice inflexo-apiculatis, extus puberulis, intus basim versus minute pubescentibus; filamentis 6 mm. longis, intus basim versus pubescentibus; antheris 1.4 mm. longis; disco crasso.

tomentoso; carpellis 4, tomentosis; stylo 3 mm. longo, minute piloso; fructibus ignotis.

BRITISH NEW GUINEA: Western Division, Wassi Kussa River, Tarara, *Brass 8553* (TYPE), December 1936, in rain-forest (common canopy tree; bark soft, corky, deeply fissured; flowers pink); Oriomo River, Wuroi, *Brass 5851*, January–March 1934, alt. 1030 m., common in rain-forest and scattered occasionally on savannah (tree 25 m. high, with gray channelled bark; flowers dark pink to almost white, profusely flowering; nectar copious).

This species closely approaches the very sketchy description of *Evodia altissima* Baker f. It differs in having rounded or obtuse leaflets (not acuminate), panicles mostly below the leaves, flowers about the size of those on a specimen we have determined as *E. Forbesii* Baker f., and stamens finely pubescent toward the base of the inner face of the filament.

***Evodia cladantha* sp. nov.**

Arbor 21 m. alta; ramulis ad apicem velutinis, angulatis, ad nodos valde compressis, interdum sulcatis; foliis ternatis; petiolo 9–11 cm. longo, supra appanato, velutino; foliolis sessilibus, chartaceo-coriaceis, ellipticis vel oblongo-ellipticis (terminali 18–25 cm. longo, 9–11 cm. lato; lateralibus 12.5–17.5 cm. longis, 7–9 cm. latis), basi rotundatis ad subcordatis, apice abrupte acuminatis (acumine  $\pm$  1 cm. longo) ac cuspidatis, supra fuscis, praecipue secus costam nervosque minute pubescentibus, subtus pallidioribus, subvelutinis; venis primariis utrinsecus 12–20, supra manifestis, subtus prominulis, oblique patentibus, prope marginem arcuatim anastomosantibus; venulis reticulatis, supra inconspicuis, subtus manifestis; paniculis lateralibus, e ramis circiter 1.5 cm. diametro ortis,  $\pm$  5.5 cm. longis, 6 cm. latis (pedunculo 1.5–2.5 cm. longo), multifloris; axi, ramulis pedicellisque tomentulosis; sepalis 1 mm. longis, subrotundatis, pubescentibus vel tomentulosis; petalis 5 mm. longis, 2 mm. latis, apice inflexo-apiculatis, intus basim versus minute pubescentibus, caetera glabris; staminibus glabris, filamentis 11 mm. longis, antheris 2 mm. longis; disco dense tomentoso, 1 mm. alto; ovario villosa; stylo 11 mm. longo, glabro; fructibus ignotis.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Brass & Versteegh 14003* (TYPE), April 1939, alt. 70 m., frequent tree in the primary forest of the flood-plain (21 m. high, 43 cm. diameter; bark 8 mm. thick, gray, rough, fissured; wood white; flowers rose).

Among the larger-flowered species of *Evodia*, this species is best characterized by the lateral inflorescences, the velutinous young branchlets, and the sessile leaflets with rounded bases, acuminate apices and the soft pubescence on the lower surface of the lamina.

**Evodia eriophylla** sp. nov.

Arbor 24 m. alta; ramulis apicem versus  $\pm$  obtuse angulatis, ad nodos valde compressis, innovationibus fulvo-tomentosis, mox glabratis; foliis ternatis; petiolo 3–4 cm. longo, glabrato, supra applanato; foliolis brevissime pedicellatis (pedicellis 3–6 mm. longis, fulvo-tomentosis ad glabratis), crasse coriaceis, obovato-oblongis, 9–17 cm. longis, 4.5–6.5 cm. latis (in parte latissima), basi acute cuneatis, apice obtusis acumine brevissimo praeditis, supra glabris, subtus dense fulvo-tomentosis, costa venisque primariis supra impressis, subtus prominentibus; venis primariis utrinsecus 18–23, adscendentibus, ad marginem arcuatim confluentibus; venis reticulatis, utrinque submanifestis; paniculis axillaribus, usque 17 cm. longis, 14 cm. latis (pedunculis circiter 8 cm. longis); axi, ramulis pedicellisque minute tomentosus ad glabratis; pedicellis 3 mm. longis; sepalis vix 2 mm. longis, subrotundatis, puberulo-tomentosis; petalis anguste imbricatis, late ellipticis, 4 mm. longis, 2.5 mm. latis, apice inflexo-apiculatis, extus glabris, intus praecipue basim versus pilosis vel breviter villosis; staminibus glabris; filamentis 4 mm. longis, ad basim dilatatis; antheris 1.5 mm. longis, connectivo fusco; disco breviter villoso; ovario 4-partito, subgloboso, breviter villoso, 1 mm. alto; stylo 1.2 mm. longo, glabro; stigmatibus capitatis, indistincte 4-lobatis.

NETHERLANDS NEW GUINEA: 9 km. northeast of Lake Habbema, *Brass & Versteegh 10459* (TYPE), October 1938, alt.  $\pm$  2850 m., rare in old secondary forest (tree 24 m. high, 37 cm. diameter; bark 5 mm. thick, soft brown; wood white; flowers white).

This species agrees with several features of the description of *Evodia pachypoda* Lauterb. Nevertheless, the leaflets of the latter are subsessile with a subrounded base, and the lower surface particularly on the nerves is tomentose (this statement would seem to indicate a difference in the amount of pubescence on the nerves and on the blade between), the sepals are acute, and the petals are densely villous within. In *E. eriophylla*, on the other hand, the leaflets are very short petiolulate with a distinctly cuneate or acute base, the lower surface of the leaf is covered with a fine close tomentum (this appears to be easily rubbed off the nerves, particularly the midrib), the sepals are rounded and the petals pilose or very short villous only on the lower part of the inner surface.

**Evodia Elleryana** F. v. Muell. var. **tetragona** (K. Sch.) W. D. Francis, *Kew Bull.* 1931: 189.

SOLOMON ISLANDS: Malaita, Quoi-mon-apu, *Kajewski 2323*, December 1930, alt. 50 m., common in rain-forest; Ysabel, Tasia, *Brass*

3289, December 1932, common in lowland rain-forests (tree attaining 15 m.; bark pale pinkish gray; flowers pink, usually on branches below the leaves).

Previously reported from New Guinea and the Bismarck Archipelago.

***Evodia cuneata* sp. nov.**

Arbor parva; ramulis (fragmento tantum viso) glabris; foliis ternatis; petiolo 9 cm. longo, glabro, supra applanato; foliolis subsessilibus, tenuiter coriaceis, obovatis, 14–24 cm. longis, 10–16 cm. latis (lateralibus paullo inaequilateralibus), basi cuneatis, apice rotundatis vel acumine brevissimo praeditis, utrinque glabris; venis primariis utrinsecus 10–13, supra impressis, subtus prominentibus, oblique adscendentibus, prope marginem arcuatim confluentibus vel curvatis et evanescentibus; venulis inconspicuis; paniculis axillaribus (ante anthesim tantum), circiter 13 cm. longis, multifloris; axi puberulo; ramulis pedicellisque dense puberulis; sepalis rotundatis (interdum acutiusculis), 1–1.5 mm. longis, puberulis; petalis 3.5 mm. longis, 2.5 mm. latis, extus glabris, intus dense breviterque villosis; staminibus glabris; disco dense pubescente; carpellis 4, dense pubescentibus; stylo glabro, 1.5 mm. longo; stigmate capitato, indistincte 4-lobato; fructibus ignotis.

NORTHEASTERN NEW GUINEA: Ogeramng, *Clemens* 4895 (TYPE), January 1937, alt. 1650 m., in forest (small tree with bright pink flowers).

This species is perhaps near *Evodia Bonwickii* F. v. Muell. and *E. pachypoda* Lauterb. It differs from both in the large glabrous obovate leaflets with rounded or almost apiculate apices.

***Evodia Bonwickii* F. v. Muell.** *Fragm. Phytogr. Austr.* **5**: 56. 1865; *F. M. Bail. Queensl. Fl.* **1**: 200. 1899; *C. T. White, Contr. Arnold Arb.* **4**: 47. 1933.

BRITISH NEW GUINEA: Lower Fly River, Sturt Island, *Brass* 8159, October 1936, plentiful in flood-plain rain-forest (very large, buttressed, canopy tree with thick hard shallowly fissured brown bark and coarse-grained pale wood; leaves stiff, nerves pale; fruit green, gland-dotted; seeds smooth, black).

Although we have no fruiting material with which to compare this collection (in full fruit), it seems to correspond reasonably well with a flowering specimen from the Atherton Tableland, Queensland. The remnants of petals found among the cocci are about the same size and have a villosity similar to those of the Australian material. It is to be noted that only the larger leaves of the Papuan plant (leaflets 8–17 cm.



long, 5–9.5 cm. broad) fall within the range of leaf-size given in the description of the Australian species. Possibly the leaflets of the Papuan collection are a little more coriaceous.

**Evodia vitiflora** F. v. Muell. *Fragm. Phytogr. Austr.* 7: 144. 1871; F. M. Bail. *Queensl. Fl.* 1: 201. 1899; C. T. White, *Contr. Arnold Arb.* 4: 48. 1933.

BRITISH NEW GUINEA: Western Division, Upper Wassi Kussa River (left branch), *Brass* 8635, January 1937, in rain-forest (large canopy tree; bark gray, suberose, fissured; wood pale, aromatic; leaf-venation conspicuous on the upper surface; flowers white). Previously known from Australia.

**Evodia phanerophlebia** sp. nov.

Arbor parva, 6 m. alta; ramulis teretibus ad nodos leviter compressis, glabris, innovationibus stellato-puberulis; foliis ternatis; petiolo 4.5–9 cm. longo, glabro vel puberulo, supra ad apicem subcanaliculato; foliolis petiolulatis (petiolulis 0.5–1.2 cm. longis, canaliculatis, glabratis), chartaceis, subfalcato-oblongis vel obovato-oblongis, 7–13.5 cm. longis, 2.5–6 cm. latis (lateralibus paullo inaequilateralibus), basi acutis vel cuneatis, apice acuminatis (acumine usque 1.5 cm. longo), novellis parce puberulis, mox glabratis; venis primariis utrinsecus 8–12 oblique patentibus, prope marginem arcuatim conjunctis, supra leviter impressis, subtus prominentibus; venulis reticulatis, supra obscuris, subtus manifestis; paniculis axillaribus, usque 13 cm. longis, ramosis; axi, ramulis, bracteis, pedicellis calycibusque minute stellato-puberulis; pedicellis circiter 1 mm. longis; petalis 1.5 mm. longis, 0.8 mm. latis, glabris; staminibus brevissimis, 0.6 mm. longis; disco glabro; ovario distincte 4-partito, dense stellato-pubescente; stylo circiter 1 mm. longo, basim versus stellato-puberulo; stigmate 0.8 mm. lato, 4-lobato; coccis subglobosis, 3 mm. diametro, glabratis, minute pustulato-glandulosis.

NETHERLANDS NEW GUINEA: 15 km. southwest of Bernhard Camp, Idenburg River, *Brass* 12200 (TYPE), January 1939, alt. 1700 m., in rain-forest seral growths (small tree 6 m. high; leaf-nerves impressed above, prominent below; flowers white).

*Evodia phanerophlebia* shows some resemblance to *E. Bismarckii montium* Lauterb., but the leaflets are smaller, shorter petiolulate and practically glabrous; the panicles are axillary rather than terminal, and the disk of the flower is glabrous. In only one other specimen we have found a similar stigma with distinctly spreading lobes.

**Evodia asteridula** sp. nov.

Arbor circiter 8 m. alta; innovationibus, ramulis, petiolis, petiolulis, axi ramulisque inflorescentiae atque bracteis dense minuteque stellato-pilosis; ramulis teretibus, nodis compressis; foliis ternatis; petiolo 5.5–11 cm. longo, ad apicem canaliculato; foliolis subsessilibus (petiolulis 1–2 mm. longis), chartaceo-coriaceis, ellipticis (terminali 12–20 cm. longo, 6–11 cm. lato, lateralibus 8.5–16 cm. longis, 5–10.5 cm. latis), basi subrotundatis, apice breviter acuminatis (acumine 1–1.5 mm. longo); costa ac venis primariis supra parce, subtus  $\pm$  dense minuteque stellato-pilosis; venis primariis utrinsecus 12–16, supra perspicuis, subtus prominulis, patentibus, prope marginem arcuatim conjunctis; venulis reticulatis, utrinque manifestis; paniculis axillaribus, circiter 15 cm. longis, ramosis, multifloris; floribus in ramulis brevibus confertis, breviter pedicellatis (pedicellis 0.5–vix 1 mm. longis, glabris); sepalis circiter 0.5 mm. longis, basi connatis, subrotundatis, ciliolatis; petalis glabris, 1.2 mm. longis, 0.6 mm. latis, apice inflexo-apiculatis; staminibus glabris, filamentis 1.5 mm. longis, antheris 0.5 mm. longis; disco glabro; ovario pubescente, 4-partito; stylo 1 mm. longo, glabro; fructibus ignotis.

NETHERLANDS NEW GUINEA: 4 km. southwest of Bernhard Camp, Idenburg River, *Brass 13282* (TYPE), March 1939, alt. 850 m., in floodplain rain-forest (tree 8 m. high; flowers white).

In some respects this species suggests *Evodia Radlkoferiana* Lauterb. It differs, however, in the elliptic leaflets, the minute stellate pubescence, and the very short petiolules. Among the collections examined, the dense but tiny crisp stellate hairs of *Evodia asteridula* give the species a distinctive appearance.

**Evodia Radlkoferiana** Lauterb. in K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee Nachtr. 281. 1905, Bot. Jahrb. **55**: 239. 1918.

*Evodia lamprocarpa* K. Schum. l.c. 280, 239 (fide Lauterb.).

SOLOMON ISLANDS: Bougainville, Kupei Village, *Kajewski 1723*, April 1930, alt. 750 m., in rain-forest (tree up to 20 m. high, with minute cream flowers, and cocci in fours, threes, twos, and single, the latter 3 mm. long and 2 mm. diameter, seed shiny black); Malaita, Quoi-monapu, *Kajewski 2361* (excluding fruit), December 1930, alt. 200 m., rain-forest on mountain (tree up to 20 m. high; buds only); Guadalcanal, Uulolo, Tutuve Mountain, *Kajewski 2516*, January 1931, alt. 1200 m., in rain-forest, common as a regrowth tree, also found in primeval forest (tree up to 15 m. high; flowers white).

Another collection, Bougainville, Kugumaru, Buin, *Kajewski* 1832, June 1930, alt. 150 m., in rain-forest (tree 15 m. high; flowers white, faintly scented), is more pubescent than the others and with slightly larger flowers; the fruit is less mature but a little more pubescent and compressed. We doubt that it is specifically different. All the collections fall within the range of the descriptions of *Evodia Radlkoferiana* Lauterb. Unfortunately we have no authentic material for comparison. The species has not previously been reported from outside New Guinea.

***Evodia papuana* sp. nov.**

Arbor 6 m. et ultra alta; ramulis ad nodos leviter compressis, glabris, novellis puberulis vel minute pubescentibus; foliis ternatis; petiolo 3–8 cm. longo, glabro, supra applanato; foliolis petiolulatis (petiolulis  $\pm$  3 mm. longis, glabris), chartaceis vel subcoriaceis, lanceolatis ad ellipticis, 7–16 cm. longis, 2.5–5.5 cm. latis, basi acutis vel obtusis, apice acuminatis (acumine 0.5–1 cm. longo), utrinque glabris; venis primariis utrinsecus 11–14, oblique patentibus, prope marginem arcuatim anastomosantibus, manifestis; venulis reticulatis, subaequaliter manifestis; paniculis axillaribus  $\pm$  10 cm. longis, multifloris; axi, ramulis pedicellisque puberulis; pedicellis  $\pm$  1 mm. longis; sepalis ad medium connatis, 0.6 mm. longis, acutiusculis; petalis vix 2.5 mm. longis, apice inflexo-apiculatis, glabris; staminibus glabris; filamentis 2 mm. longis, antheris 1.2 mm. longis; disco glabro, vix 0.4 mm. alto; ovario puberulo, 4-partito; stylo 1 mm. longo, glabro.

BRITISH NEW GUINEA: Western Division, Upper Wassi Kussa River (left branch) *Brass* 8646 (TYPE), January 1937, rain-forest substage (tree 6–7 m. high; leaves anise-scented; flowers white); Oriomo River, Wuroi, *Brass* 5719, January–March 1934, alt. 10 m., common in light rain-forest (slender small tree; leaves anise-scented; flowers white); Central Division, Ononge River, Dieni, *Brass* 4004, April–May 1933, alt. 500 m., rain-forest (loosely branched tree 12 m. high; bark brown, fissured; flowers white); Kubuna, *Brass* 5579, November 1933, alt. 100 m., common in forest on low ridges (tree 15–20 m. high; leaves dark, glossy, 3-foliolate; small white flowers).

Of the descriptions of New Guinea species of *Evodia*, the material cited above most closely approaches *E. anisodora* Lauterb. & K. Schum. The collections are relatively uniform and give no indication of the presence of single leaflets, the trifoliolate ones are consistently smaller (than those of *E. anisodora* Lauterb. & K. Schum.) and distinctly acuminate, the net-veining of the leaves is almost as manifest as the primary veins and the inflorescence is puberulous.

***Evodia simulans* sp. nov.**

Arbor parva; ramulis teretibus, nodis leviter compressis, glabris; foliis ternatis; petiolo 3.5–6.5 cm. longo, glabro, supra appanato; foliolis subsessilibus (petiolulis 1.5–2.5 mm. longis, parce pilosulis), chartaceo-coriaceis, oblongo-ellipticis, 6–17 cm. longis, 2.5–6.5 cm. latis, basi obtuse cuneatis vel subrotundatis, apice acutis vel acuminatis, utrinque glabris; venis primariis utrinsecus 11–16, oblique patentibus, supra saepe impressis, subtus prominulis; venulis reticulatis, utrinque manifestis; paniculis axillaribus, 10–14 cm. longis, ramosis; axi, ramulis bracteisque substellato-puberulis; floribus in ramulis brevibus confertis, breviter pedicellatis (pedicellis vix 1 mm. longis, glabris); sepalis 0.4 mm. longis, ovatis, basi connatis, acutiusculis, fere glabris; petalis 1.4 mm. longis, ellipticis, apice inflexo-apiculatis, parce glandulosis; staminibus 2–2.5 mm. longis, filamentis glabris, subfiliformibus, antheris 1 mm. longis; disco glabro, parvo (0.2 mm. alto); ovario hirtello, inconspicue 4-partito, 0.5 mm. alto; stylo 0.8 mm. longo, glabro; fructibus non visis.

NORTHEASTERN NEW GUINEA: Ogeramngang, *Clemens 6040* (TYPE), 5412, March and February 1937, alt. 1750 m.

Among the described New Guinea species of *Evodia*, this appears to be most like *E. Schraderi* Lauterb., but the leaflets have short petiolules, the petioles and the pedicels are glabrous, and the petals are sparsely glandular.

?***Evodia Peekelii*** Lauterb. Bot. Jahrb. **55**: 227. 1918; Kaneh. & Hatus. Bot. Mag. Tokyo **52**: 409. 1938.

SOLOMON ISLANDS: Bougainville Island, Karngu, Buin, *Kajewski 2281*, October 1930, rain-forest at sea-level; Kupei Gold Field, *Kajewski 1682*, April 1930, rain-forest, alt. 50 m.; Kieta, *Kajewski 1610*, March 1930, alt. 100 m.

The field notes indicate a common tree 15–20 m. high. *Kajewski 2281* is a fruiting specimen with capsule very shallowly 4-lobed; *Kajewski 1682* is in flower (♀), the four carpels are united, glabrous, and project above the disk; *Kajewski 1610* has a staminate inflorescence, the pistil is rudimentary and sunk in the centre of the disk. Known previously from the Bismarck Archipelago. Possibly this belongs to *Acronychia*.

***Evodia solomonensis* sp. nov.**

Arbor usque 12 m. alta; ramulis novellis pubescentibus vel breviter tomentosis, mox glabratis; foliis trifoliolatis; petiolo 8–18 cm. longo, minute tomentoso ad glabrato; foliolis petiolulatis (petiolulis 3–6 mm.

longis, canaliculatis, minute tomentosis ad glabratis), chartaceis, minute pellucido-punctatis, ellipticis vel leviter obovato-ellipticis, 10–21 cm. longis, 6–11 cm. latis, basi cuneatis (lateralibus basi  $\pm$  inaequalibus), apice breviter acuteque acuminatis (acumine  $\pm$  1 cm. longo), utrinque fere glabris, costa atque venis primariis subtus  $\pm$  pubescentibus; venis primariis utrinsecus 10–16, oblique adscendentibus, ad marginem arcuatim confluentibus, supra manifestis, subtus prominulis; venulis reticulatis, inconspicuis; paniculis axillaribus (subterminalibus), usque 16 cm. longis, breviter tomentosis vel pubescentibus, multifloris, floribus in ramulis confertis; pedicellis brevissimis (0.5–1 mm. longis); calyce 1 mm. longo, ad medium lobato, puberulo-tomentoso, lobis rotundatis; petalis 2.2–2.4 mm. longis, 1.4 mm. latis, apice inflexo-apiculatis, glabris, extus minute consperseque glandulosis; staminibus 4, circiter 2.5 mm. longis;  $\delta$  : disco crasso, lobato, glabro; carpellis liberis, minutis, glabris, in disco immersis; stylis connatis, brevissimis;  $\text{♀}$  disco angusto, glabro; carpellis fere ad medium connatis, glabris; stylis connatis, 2 mm. longis, glabris; stigmatate capitato, 4-lobato; fructibus 3 mm. longis, 4 mm. latis; semine 1 mm. lato, 2 mm. longo, subellipsoideo.

SOLOMON ISLANDS: San Cristobal Island, Waimamura, *Brass 2682* (TYPE), August 1932, lowland rain-forests, common (tree 10 m. tall, not much branched; bark thin, brown, aromatic; leaves glabrous, shining; flowers green; fruit immature); Ysabel Island, Tiratona, *Brass 3209*, November 1932, alt. 600 m., mountain rain-forests, common (slender tree 12 m. tall, with close gray bark; leaves pale green, midrib very pale above; flowers cream-colored).

*Evodia solomonensis* appears to be closely related to *E. Peekelii* Lauterb. The carpels here, however, are only united half way to the apex. The leaflets too are short-petiolulate and cuneate rather than sessile and rounded at the base.

### **Evodia silvatica** sp. nov.

Arbor gracilis; ramulis novellis velutinis; foliis trifoliolatis; petiolo 11 mm. longo, velutino; foliolis petiolulatis (petiolulis 5 mm. longis, subvelutinis, fere canaliculatis), chartaceis, minute pellucido-punctatis, ellipticis, circiter 21 cm. longis, 12 cm. latis, basi breviter cuneatis, apice obtusis, acumine brevissimo (3 mm. longo) praeditis, utrinque (costa supra  $\pm$  pubescente, subtus tomentosa excepta) glabris; venis primariis utrinsecus  $\pm$  14, patenti-adscendentibus, ad marginem curvatis atque inconspicue anastomosantibus, utrinque perspicuis; venulis crebre reticulatis, supra inconspicuis, subtus manifestis; paniculis axillaribus (subterminalibus), 13–14 cm. longis (incl. pedunculo 8 cm. longo), ramulis

brevibus basi bracteis foliiformibus binis praeditis; axi, ramulis bracteisque velutinis; floribus in ramulis confertis; pedicellis circiter 1 mm. longis, minute pubescentibus; calyce ultra medium lobato, minute pubescente, lobis vix 1 mm. longis, triangularibus, acutiusculis; petalis 2.5 mm. longis, apice inflexo-apiculatis, glabris vel extus secus medium puberulis, minute glandulosis; staminibus 4, circiter 3 mm. longis, glabris, antheris 0.5 mm. longis; disco lato, applanato, extus glabro, intus barbato; carpellis minutis, in disco immersis; stylis liberis, brevissimis, glabris.

SOLOMON ISLANDS: Ysabel Island, Tataba, *Brass* 3431 (TYPE), January 1933, alt. 30 m., rain-forests, common (slender second storey tree; leaves pale-nerved; flowers white).

*Evodia silvatica* is very much like *E. Peekelii* Lauterb. and *E. solomonensis*. It is to be distinguished from both by the velvety pubescence of the new growth, and the disk barbate or hirtellous within. This is probably a staminate inflorescence. The four minute glabrous styles do not protrude beyond the trichomes of the inner part of the disk; the concealed carpels are probably only rudimentary. The inflorescence is young, the bracts at the base of the branches are long and slender simulating a leaf, the lowest ones even have a short stalk.

The name *Evodia coriacea* Merr. Philip. Jour. Sci. 17: 265. 1920, is invalidated by the earlier *E. coriacea* Lauterb. Bot. Jahrb. 55: 237. 1918, and should be changed to ***E. philippinensis*** nom. nov.

### **Melicope** Forst.

#### **Melicope parvifolia** sp. nov.

Arbor usque 8 m. alta; ramulis teretibus, novellis obtuse angulatis, in sicco rubescentibus, glabris; foliis unifoliolatis; petiolo 0.3–1 cm. longo, glabro, supra subcanaliculato; foliolo sessili, tenuiter coriaceo, oblongo ad late elliptico, 1–3.3 cm. longo, 0.8–2.2 cm. lato, basi obtuso, apice retuso vel subemarginato, utrinque glaberrimo, minute punctato; costa supra impressa, subtus prominula; venis primariis utrinsecus  $\pm$  6, patentibus, prope marginem arcuatim confluentibus, vix manifestis; inflorescentiis axillaribus, glabris, circiter 1 cm. longis, paucifloris (in specimine typico immaturis, 2-floris); pedicellis 2 mm. (fructiferis usque 5 mm.) longis; sepalis basim versus crassis ac connatis, circiter 1.2 mm. longis, exterioribus rotundatis, interioribus obtusiusculis, glabris; petalis . . . . ; staminibus 8, non fertilibus, vix 1 mm. longis; filamentis complanatis, membranaceis, ciliatis; antheris minutis vel nullis; disco an-

gusto, breviter pilosulo; ovario 4-partito, glabro; stylo vix 2 mm. longo, glabro; ovulis superpositis; fructibus 2–4 coccis; coccis liberis, minute glandulosis, compressis, consperse rugulosis, ellipsoideis, 6 mm. longis, 5 mm. latis, vix maturis.

BRITISH NEW GUINEA: Central Division, Mount Albert Edward, *Brass 4341* (TYPE), May–July 1933, alt. 3680 m., rare in forest (slender tree 4–5 m., branches erect; leaves dark, shining, citrus-like; flowers yellowish; fruit green); Mount Albert Edward, *Brass 4398*, May–July 1933, alt. 3680 m., common in forest (tree 5–8 m. high with straight trunk and ascending branches; leaves gland-dotted, somewhat yellowish beneath; flowers yellow-green; fruit immature). Unfortunately only a couple of flowers are left on the specimens and the petals have fallen from both. Apparently the flowers disarticulate very readily from the axis.

The glabrous character of the plant, the size, and the apparent lack of primary veins in the leaflets, suggest *Evodia aneura* Lauterb. Yet, having 8 stamens, our species surely belongs to *Melicope* Forst. Further *Evodia aneura* Lauterb. has trifoliolate leaves; these specimens have unifoliolate ones.

***Melicope sterrophylla* sp. nov.**

Arbor parva, 3–4 m. alta; ramulis glabris, cinereis, novellis rubiginosis; foliis unifoliolatis; petiolo 0.7–1.2 cm. longo, supra subcanaliculato vel applanato; foliolo sessili, rigide coriaceo, crebre glanduloso-punctato, supra nitido, elliptico ad obovato, 5–8 cm. longo, 3–4 cm. lato, in basim cuneatum angustato, apice rotundato vel retuso, utrinque glaberrimo; costa subtus prominente; venis primariis utrinsecus 8–12 in utraque pagina subaequaliter manifestis, patentibus, fere transversis, in venam submarginalem confluentibus; venulis laxe reticulatis, supra manifestis, subtus leviter manifestis; inflorescentiis subterminalibus (ante anthesim tantum),  $\pm$  2 cm. longis, paucifloris (in specimine typico 2-floris), glabris; pedicellis 2 mm. longis; sepalis liberis, 2–3 mm. longis, 3–4 mm. latis, 2 exterioribus paullo brevioribus, margine subhyalinis, minute glandulosis; petalis valvatis, 5 mm. longis, lanceolatis vel ovatis, apice inflexo-apiculatis, minute glandulosis; staminibus 8, 4 brevioribus; filamentis subulatis, extus minute glandulosis, intus (basi glabra excepta) dense barbatis; antheris cordatis, 2–2.5 mm. longis, in staminibus brevioribus apiculatis; disco lobato in parte inferiore glabro, in parte superiore  $\pm$  piloso-barbato; ovario glabro, 4-partito; stylo brevissimo (circiter 0.5 mm. longo), villosulo; stigmatibus subglobosis, 4-lobatis; fructibus ignotis.

BRITISH NEW GUINEA: Central Division, Wharton Range, Murray Pass, *Brass* 4520 (TYPE), June–September, 1933, alt. 2840 m., in forest borders (small stiffly branched tree 3–4 m.; flowers yellow-green).

*Melicope sterrophylla* appears to be a very distinct species. We cannot suggest its alliance although the material seems to fall within the generic limits of *Melicope*. Its distinguishing characters are the very stiff leaves, the short and few-flowered subterminal inflorescences, the filaments bearded on the inner face, the large cordate anthers, the short villous style between the glabrous 4-carpelled ovary, and the large globose 4-lobed stigma.

***Melicope polyadenia* sp. nov.**

Arbor usque 10 m. alta; ramulis subteretibus, glabris; innovationibus, ramulis novellis, petiolis foliolisque dense minuteque glanduloso-pustulatis, glabris; foliis unifoliolatis; petiolo circiter 2.4 cm. longo, supra subcanaliculato; foliolo sessili, subcoriaceo, obovato, 7–11.5 cm. longo, 4–5.5 cm. lato, basi cuneato, apice obtuso vel retuso; venis primariis utrinsecus 9–13, oblique patentibus, prope marginem arcuatim anastomosantibus, utrinque manifestis; costa subtus prominente; paniculis 2.5 cm. longis pedunculo 1 cm. longo incluso, glabris, pauci-ramosis, ramis brevissimis (2–3 mm. longis); pedicellis 2 mm. longis; sepalis 2 mm. longis, basim versus connatis, ovatis, acutiusculis, minute glandulosis; petalis 3.5 mm. longis, apice longiuscule inflexo-apiculatis, minute glandulosis; staminibus 8, non fertilibus; filamentis complanatis, longitudinem ovarii fere aequantibus, glabris; antheris minutis; disco vix manifesto; ovario 1.2 mm. longo, 4-partito, minute glanduloso; stylo 1 mm. longo, glabro, stigmatate capitato, 4-lobulato; fructibus (uno tantum viso) 4-coccis; coccis dense minuteque glanduloso-pustulatis, oblique ovoideis, apiculatis; semine 4 mm. longo, 3 mm. lato, modice compresso.

BRITISH NEW GUINEA: Central Division, Mount Tafa, *Brass* 4858 (TYPE), May–September 1933, alt. 2400 m., common in forests (small tree up to 10 m. high; midrib prominent beneath; flowers cream-colored; fruit dark green, seeds black).

This species, in its foliar character, is somewhat like *Melicope sarcococca* Lauterb. It has, however, a shorter panicle, the mericarp is not pedicellate, and the epicarp, although glandular, could scarcely be considered fleshy. The entire new growth is copiously glandular-pustulate. The flowers are probably unisexual, as the anthers are incompletely developed.



**Melicope heterophylla** sp. nov.

Arbor usque 12 m. alta, glabra; ramulis subteretibus, novellis minute glandulosis; foliis uni- atque tri-foliolatis; petiolo 2–5 cm. longo, canaliculato; foliolis brevissime petiolulatis (petiolulis 1–2 mm. longis), chartaceis vel tenuiter coriaceis, oblongo-ellipticis, 3–7.5 cm. longis, 1–3 cm. latis (lateralibus quam terminali saepe paullo brevioribus), basi obtusis vel cuneatis, apice retusis vel obtusis, utrinque glabris, crebre glanduloso-punctatis; costa supra impressa, subtus prominente; venis primariis utrinsecus 9–11, patentibus, prope marginem arcuatim confluentibus, inconspicuis vel vix manifestis; paniculis axillaribus, plerumque quam petiolo brevioribus, ramulis brevibus (usque 4 mm. longis), paucifloris; sepalis fere ad medium connatis, lobis ovatis, obtusiusculis, 1 mm. longis; ♂ : staminibus 8, filamentis 4 mm. longis, 4 paullo brevioribus, applanatis, glabris, antheris 1 mm. longis; ♀ : staminodiis 8, longitudinem ovarii fere aequantibus, glabris; disco glabro, 0.5 mm. alto; ovario subangulato, glabro; stylo 1 mm. longo; stigmate subgloboso-capitato; fructibus 1–4-coccis, coccis liberis basi connatis, minute pustulatis, subglobosis, 4 mm. diametro; semine 3 mm. diametro.

NETHERLANDS NEW GUINEA: 9 km. northeast of Lake Habbema, *Brass 10296* (TYPE), October 1938, alt. 2800 m., seral growths in a small forest opening (tree 4 m. high; aromatic, flowers white); Bele River, 18 km. northeast of Lake Habbema, *Brass 11417*, November 1938, alt. 2200 m., in a small forest clearing (very slender tree 5 m. high; flowers white); Bele River, *Brass 11529*, November 1938, alt. 2400 m., occasional in forest substage (tree 12 m. high; flowers white).

*Melicope heterophylla* is perhaps allied to *M. alba* Lauterb., but the petioles are not winged, the leaflets are shorter petiolulate than those of the related species, and oblong-elliptic and retuse or obtuse at the apex, rather than lanceolate and obtusely subacuminate.

**Melicope novo-guineensis** Val. Bull. Dep. Agr. Ind. Neerl. **10**: 24. 1907, Ic. Bogor. **3**: 195, t. 274. 1908; Lauterb. Bot. Jahrb. **55**: 241. 1918, Nov. Guin. **14**: 141. 1924.

BRITISH NEW GUINEA: Palmer River, 2 miles below Black River Junction, *Brass 7078*, June 1936, alt. 100 m., common in undergrowth of ridge-forests (a small tree 3 m. high; flowers white). NETHERLANDS NEW GUINEA: 6 km. southwest of Bernhard Camp, Idenburg River, *Brass 13027*, February 1939, alt. 1250 m., rain-forest undergrowth (slender tree 2.5 m. high).

One collection is in flower, the other in fruit; the first has 1-foliolate leaves, the second shows both 1-foliolate and 3-foliolate leaves. Lauter-

bach, in his key to the species of this genus, characterizes the leaves of this species as smooth. Valetton describes the veins on the lower surface as minutely hirsute. The species is very close to *M. papuana* Lauterb.

**Melicope clathrata** sp. nov.

Arbor 6–9 m. alta; ramulis novellis velutinis; foliis trifoliolatis; petiolo 3–9 cm. longo, velutino; foliolis petiolulatis (petiolulis 1–1.5 cm. longis, velutinis, supra subapplanatis), coriaceis, discoloribus, ellipticis vel obovato-ellipticis, 7–12(–19) cm. longis, 4–7(–10) cm. latis, basi cuneatis vel obtusis, apice obtusis vel ?apiculatis, supra glabris, in costa  $\pm$  tomentosis, subtus parce tomentosis, in costa tomentosis; venis primariis utrinsecus 15(–18), oblique patentibus, subtus prominentibus, tomentosis; venulis supra inconspicuis, subtus clathrato-reticulatis; paniculis e ramis 8 mm. diametro ortis, multifloris (floribus non visis); fructibus dense confertis; sepalis ovatis, 1 mm. longis, tomentosis; petalis ovatis, acutis, 2 mm. longis, 1.5 mm. latis, extus tomentosis, intus glabris; staminibus 8, ?glabris; fructibus 1–4-coccis; coccis liberis, dense tomentosis, subglobosis, circiter 5 mm. longis, 4 mm. latis, vix compressis; endocarpio soluto; semine 3.5 mm. longo, 3 mm. lato.

NORTHEASTERN NEW GUINEA: Morobe District, Ogeramnang, *Clemens* 4713 (TYPE), December 1936, alt. 1800 m., in forest with *Podocarpus* and *Dacrydium*; Yunzaing, *Clemens* 4101, September 1936, alt. 1500 m.

Although both these numbers are fragmentary specimens, we have not found any description of a species in which they might belong. Fortunately, upon scanning the fruits we found a few to which the petals and withered stamens were still attached. The description of the flowers of *M. trachycarpa* Lauterb. might fit these specimens, but surely the cocci in our species would not be considered rough, and the characterization of the leaves does not suit this material at all.

**Melicope coriacea** sp. nov.

Arbuscula 2–4 m. alta; ramulis glabratis, innovationibus tomentosis; foliis trifoliolatis; petiolo 3.5–4.5 cm. longo, minute tomentoso, supra canaliculato; foliolis petiolulatis (petiolulis 1.1–2 cm. longis, subapplanatis, minute tomentosis), coriaceis, discoloribus, ellipticis, 9–14 cm. longis, 5–7 cm. latis, basi obtusis atque leviter decurrentibus, apice acutiusculis (fere obtusis), supra glabris (costa interdum pubescente), subtus  $\pm$  tomentosis; venis primariis utrinsecus 12–15, supra impressis, subtus perspicuis, patienti-curvatis, ad marginem arcuatim confluentibus; venulis laxe reticulatis, supra subobscuris, subtus manifestis; paniculis in axillis foliorum superiorum (subterminalibus), immaturis, tomentosis;

sepalis tomentosis, fere ad medium connatis, ovatis, circiter 1 mm. longis; petalis oblongis, 2.5 mm. longis, 1.5 mm. latis, utrinque minute tomentosis; staminibus 8, circiter 1 mm. longis; filamentis subulatis, glabris; fructibus 1-4-coccis; coccis basi cohaerentibus, minute tomentosis, subglobosis, apiculatis,  $\pm$  4 mm. diametro.

BRITISH NEW GUINEA: Central Division, Wharton Range, Murray Pass, *Brass 4574* (TYPE), June-September 1933, alt. 2840 m., shrubby forest borders (common small tree 2-4 m. with stiff erect branches; leaves pale; flowers and fruit green).

The inflorescences on this specimen show only very young buds. The description of the flower is compiled from the parts attached to the immature fruits.

We have noted two other species, *Melicope reticulata* Lauterb. and *M. perspicuinervia* with petals tomentose on both surfaces. In *M. coriacea* the trichomes on the lower surface of the leaf are not confined to the venation; the fruit is tomentose (not subrugose).

#### ***Melicope perspicuinervia* sp. nov.**

Ramuli tomentosi ad glabrati; foliis trifoliolatis; petiolo 7-11 cm. longo, minute tomentoso; foliolis petiolulatis (petiolulis 6-9 mm. longis, minute tomentosis), chartaceo-coriaceis, discoloribus, oblanceolatis ad oblongo-ellipticis, 14-21 cm. longis, 4.5-7.5 cm. latis (parte latissima ultra medium), basi anguste cuneatis, decurrentibus, apice breviter acuminatis (fere cuspidatis), supra (costa pubescente excepta) glabris, subtus secus costam venasque primarias tomentosis ad glabratis; venis primariis utrinsecus 9-12 patienti-curvatis, marginem versus arcuatim anastomosantibus, supra impressis, subtus perspicuis; venulis laxe reticulatis, subtus subprominulis; paniculis axillaribus  $\pm$  8 cm. longis, minute tomentosis, multifloris; floribus non visis; sepalis circiter 1.2 mm. longis, ovatis; petalis circiter 3 mm. longis, utrinque minute tomentosis; staminibus 8, glabris, vix 1 mm. longis; fructibus 1-4-coccis; coccis minute tomentosis, 5 mm. diametro, subapiculatis.

NORTHEASTERN NEW GUINEA: Morobe District, Sarawaket, *Clemens 5556, 5672* (TYPE), April 1937, alt. about 2700 m.

*Melicope perspicuinervia* is most closely related to *M. reticulata* Lauterb. The cocci of the former are densely short tomentose, and although apparently mature, show no suggestion of rugosity.

#### ***Melicope mucronata* sp. nov.**

Arbor usque 10 m. alta; ramulis ad nodos valde compressis, glabratis, innovationibus dense tomentosis; foliis trifoliolatis atque interdum

unifoliolatis; petiolo 6–17 cm. longo, tomentoso ad glabrato, supra canaliculato; foliolis subsessilibus (petiolulis 2–3 mm. longis, minute tomentosis) chartaceis vel tenuiter coriaceis, anguste ellipticis ad obovato-ellipticis, 9–23 cm. longis, 5–11 cm. latis (terminali quam lateralibus paullo majore), basi longe cuneatis, leviter decurrentibus, apice obtuse cuspidatis vel breviter acuminatis mucronatisque, crebre atro-punctatis supra costa pubescente excepta glabris, subtus secus costam venasque primarias tomentosis ad glabratis; venis primariis utrinsecus 13–18, oblique adscendentibus, marginem versus arcuatim anastomosantibus, supra manifestis, subtus perspicuis; venulis laxe reticulatis, subtus manifestis; paniculis axillaribus, usque 11 cm. longis, multifloris; axi, ramulis pedicellisque pubescentibus; sepalis 1.4 mm. longis, rotundatis, pubescentibus; petalis glabris, 2.5 mm. longis, vix 2 mm. latis, apice leviter inflexo-apiculatis; staminibus 8,  $\pm$  2 mm. longis, 4 paullo brevioribus, filamentis glabris, ad basim applanatis; antheris circiter 0.6 mm. longis; disco crasso, 0.5 mm. longo, glabro, sublobato; carpellis 4, minutis, glabris; stylis connatis, brevissimis (vix 0.5 mm. longis), glabris; fructibus 1–4-coccis; coccis liberis, subglobosis, apiculatis, 3–3.5 mm. diametro, glabris, subtransverse costulatis.

NETHERLANDS NEW GUINEA: 9 km. northeast of Lake Habbema, *Brass 10778* (TYPE), October 1938, alt. 2750 m., common in secondary forest (tree attaining  $\pm$  10 m.; leaf-nerves impressed above, prominent below; flowers green); Bele River, 18 km. northeast of Lake Habbema, *Brass 11476*, occasional in secondary forest (tree 4 m. high).

In the large leaves with a long cuneate base, this plant suggests *Melicope grandifolia* B. L. Burtt of the Solomon Islands. The leaflets, however, are more nearly sessile, more pubescent, and more distinctly cuspidate in *M. mucronata*.

***Melicope macrophylla* sp. nov.**

Arbuscula 3–5 m. alta; ramulis ad nodos compressis, innovationibus fulvo-pubescentibus; foliis trifoliolatis; petiolo 11–18 cm. longo, glabro; foliolis petiolulatis (petiolulis 2.3–3 cm. longis, supra subapplanatis, glabris), coriaceis, oblongis vel oblongo-ellipticis, 20–33 cm. longis, 8.5–13.5 cm. latis (terminali quam lateralibus paullo majore), basi cuneatis, apice rotundatis vel apiculatis, utrinque glabris, inconspicue glanduloso-punctulatis, supra olivaceo-viridescentibus, subtus brunnescentibus; costa subtus prominente; venis primariis utrinsecus 16–21, patentibus, marginem versus arcuatim anastomosantibus, subtus prominulis; venulis laxe reticulatis, subtus fere prominulis; paniculis axillaribus (novellis velutinis, pedicellis alabastrisque glabris), in fructu 19 cm. longis, multifloris; pedicellis  $\pm$  2 mm. longis; calyce fere ad

medium 4-lobato, lobis vix 1 mm. longis, ovatis, acutis; petalis glabris, in alabastro extus minute glandulosis; staminibus 8, 4 brevioribus; ovario 4-lobato, glabro; stylo glabro; stigmatate minute 4-lobato; fructibus (probabiliter immaturis) 1-4-coccis; coccis basi cohaerentibus, vix 5 mm. longis, 4 mm. latis, compresse subglobosis, apiculatis, glanduloso-pustulatis.

NETHERLANDS NEW GUINEA: Bele River, 18 km. northeast of Lake Habbema, *Brass 11401* (TYPE), November 1938, alt. 2300 m., forest undergrowth, common in moist sheltered hollows (tree 3-5 m. high; flowers white — young buds only).

*Melicope macrophylla*, in some characters, approaches *M. iboensis* Lauterb., but in the former the petiolules are much longer, the upper and lower surfaces of the dried leaves are not the same color (this character of like color was emphasized by Lauterbach in the comment following the description of his species), the axis of the inflorescence is velutinous, but the pedicels are glabrous both on the very immature bud and on the fruit.

***Melicope solomonensis* sp. nov.**

Arbor usque 15 m. alta; ramulis minute puberulis vel glabris; foliis trifoliolatis; petiolo 12 cm. longo, glabro; foliolis petiolulatis (petiolulis 5-10 cm. longis, glabris), chartaceis, minute consperseque pellucido-punctatis, fere opacis, oblongo-ellipticis, 15-40 cm. longis, 6-11 cm. latis, basi cuneatis (lateralibus basi inaequalibus), apice breviter acuminatis (acumine 5 mm. longo), utrinque glabris, subtus interdum costa venisque parce minuteque pubescentibus; venis primariis utrinsecus 12-20, oblique patentibus, ad marginem arcuatim confluentibus, manifestis; venulis laxe reticulatis, supra inconspicuis, subtus submanifestis; paniculis axillaribus, usque 19 cm. longis, multifloris; floribus subglomeratis; axi, ramulis pedicellisque minute pubescentibus; calyce 1 mm. longo ultra medium lobato, puberulo; petalis 2 mm. longis, 1 mm. latis, glabris; staminibus 8, glabris; disco crasso, lobato, glabro; carpellis 4, minutis; stylis connatis, brevissimis.

SOLOMON ISLANDS: Guadalcanal, Uulolo, Tutuve Mountain, *Kajewski 2511* (TYPE), April 1931, alt. 1200 m., common in rain-forest (tree up to 15 m. high; flowers white).

The species seems closely related to *Melicope grandifolia* B. L. Burtt; yet it differs in that the leaves are not densely pellucid-glandular, in outline they are oblong-elliptic rather than obovate-lanceolate, the reticulations are lax and inconspicuous, and the flowers are slightly smaller than in *M. grandifolia* B. L. Burtt.

**Melicope pubifolia** sp. nov.

Arbuscula 3 m. alta; innovationibus, petiolis, petiolulis, axi inflorescentiae ramulisque fulvo-tomentosis; foliis uni- atque tri-foliolatis; petiolo 1.5–3.5 cm. longo, subtereti; foliolis breviter petiolulatis (petiolulis 3–5 mm. longis), tenuiter coriaceis, ellipticis vel interdum leviter obovato-ellipticis (terminali usque 7–8 cm. longis, 4 cm. latis, lateralibus  $\pm$  4.5 cm. longis, 2.2 cm. latis), basi obtusis vel cuneatis, apice obtusis, paululo apiculatis, supra puberulis vel glabris, costa pubescente, subtus minute strigillosis, costa venisque primariis tomentulosis; venis primariis utrinsecus 8–10, patentibus, prope marginem arcuatim confluentibus, supra inconspicuis, subtus perspicuis; venulis reticulatis, subtus manifestis; paniculis circiter 7 cm. longis, gracilibus, parce ramosis, paucifloris; pedicellis circiter 3 mm. longis, minute pubescentibus; calyce fere ad medium 4-lobato, minute pubescente, lobis rotundatis,  $\pm$  0.6 mm. longis; petalis 2.2 mm. longis, 1.4 mm. latis, apice inflexo-apiculatis, glabris; staminibus glabris, 4 brevioribus; filamentis applanatis, antheris late ellipticis; disco glabro, sublobato; ovario 4-partito, glabro; stylo circiter 0.2 mm. longo; fructibus 1–4-coccis; coccis liberis, 5 mm. longis, 3.5 mm. latis, rotundatis, minute pustulatis, glabris, leviter rugulosis; semine circiter 4 mm. longo.

NETHERLANDS NEW GUINEA: 18 km. southwest of Bernhard Camp, Idenburg River, *Brass 12697* (TYPE), February 1939, alt. 2150 m., in mossy forest seral growths (tree 3 m. high; flowers white; fruit red).

The best characters of this species are the tawny pubescence, the shape of the leaflets, the prominent primary veins on their lower surface, and the slender sparsely branched inflorescences with few flowers.

**Tetractomia** Hooker f.

**Tetractomia** Hook. f. *Fl. Brit. Ind.* 1: 490. 1875.

*Terminthodia* sensu Ridley, *Trans. Linn. Soc. Bot.* II. 9: 24. 1916; *Lauterb. Bot. Jahrb.* 55: 245. 1918, *Nov. Guin.* 14: 142. 1924, *Bot. Jahrb.* 59: 535. 1925; Engler, *Nat. Pflanzenfam.* ed. 2, 19a: 230. 1931; vix Ridley 1915.

Glancing over the Rutaceae preparatory to studying the material of this family in the Papuan collections, we were impressed by the resemblance of specimens labelled *Tetractomia* Hook. f. to those we had accepted as *Terminthodia* Ridley. A further scrutiny of seven Malaysian species (among them *Tetractomia Roxburghii* Hook. f., one of the original species of the genus) failed to reveal any generic differences in the specimens at hand. A brief review of the literature shows that

(probably on account of the floral character: 8 stamens, 4 perfect, 4 imperfect) Engler, Nat. Pflanzenfam. 3(4):122. 1895, reduced Hooker's genus to a section of *Melicope* Forst. apparently overlooking the significant feature of the winged seeds. While the floral characters approximate those of *Melicope* Forster, it impresses us as illogical to place a group of rutaceous plants with winged seeds in a genus where the seeds are not at all winged. Lauterbach, Bot. Jahrb. 55: 246. 1918, accepted Engler's disposition of *Tetractomia* Hook. f.; although, after describing *Terminthodia Schultzei Leonhardi*, he commented, "Die Gattung steht der Sektion *Tetractoma* (Hook. f.) Engl. von *Melicope* ausserordentlich nahe und unterscheidet sich von derselben nur durch die geflügelten Samen." But even if no authentic fruiting material was available for examination, it is to be noted that both the description and the plate of *Tetractomia Roxburghii* Hook. f. Ic. 16: t. 1512. 1886, clearly delineate the character of the winged seeds. Ridley, on the other hand, allied the genus *Terminthodia* to *Evodia*, also because of the number of stamens (4 perfect, none imperfect); the differential character was the winged seed of the former. When describing *Terminthodia oppositifolia*, from New Guinea, however, he enlarged the concept of his genus to include a plant with flowers having "4 staminodes alternating with the stamens each consisting of a short filament adnate to the petal and an abortive triangular anther." By this modified interpretation of the genus it then corresponded to the characters of the much older *Tetractomia* Hook. f.; hence, at least as to the Papuan species, the genus *Terminthodia* Ridley is not tenable. We have seen no material representing the Malay Peninsula *Terminthodia viridiflora* Ridl. which typifies the genus as Ridley originally characterized it.

***Tetractomia oppositifolia* (Ridl.) comb. nov.**

*Terminthodia oppositifolia* Ridl. Trans. Linn. Soc. Bot. II. 9: 24. 1916.

***Tetractomia rotundifolia* (Ridl.) comb. nov.**

*Terminthodia rotundifolia* Ridl. in Gibbs, Contr. Phytog. Fl. Arfak Mts. 143. 1917.

***Tetractomia Schultzei Leonhardi* (Lauterb.) comb. nov.**

*Terminthodia Schultzei Leonhardi* Lauterb. Bot. Jahrb. 55: 245. 1918.

***Tetractomia Treubiana* (Lauterb.) comb. nov.**

*Terminthodia Treubiana* Lauterb. Nov. Guin. 14: 142. 1924.

***Tetractomia orbiculata* (Markgraf) comb. nov.**

*Terminthodia orbiculata* Markgraf, Nov. Guin. 14: 143. 1924.

***Tetractomia lanceolata* (Lauterb.) comb. nov.**

*Terminthodia lanceolata* Lauterb. Bot. Jahrb. 59: 535. 1925.

**Tetractomia Lauterbachiana** nom. nov.

*Terminthodia obovata* Lauterb. Bot. Jahrb. 55: 246. 1918.

NETHERLANDS NEW GUINEA: 15 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh 11197*, January 1939, alt. 1780 m., frequent in primary forest (tree 25 m. high, 45 cm. diameter; bark gray-brown, fairly rough; wood light yellow; flowers rose; fruit greenish brown); *Brass 12016, 12134, 12172*, January 1939, alt. 1800 m. and 1950 m., subsidiary tree in mossy forest.

The specific epithet *obovata* is already pre-empted in the genus *Tetractomia*.

**Tetractomia Lauterbachiana** forma **pumila** forma nova.

A typo recedit foliis minoribus (3–5 cm. longis, 2–2.5 cm. latis), petiolis circiter 8 mm. longis, floribus paucioribus.

NETHERLANDS NEW GUINEA: 18 km. southwest of Bernhard Camp, Idenburg River, *Brass 12454* (TYPE), *12192*, February and January 1939, alt. 2150 and 2100 m., mossy forest, common in open parts of the forest and abundant in low scrub on an exposed summit (tree 2–4 m. high; leaves concave with recurved margins; flowers red).

The general habit of these collections is so like that of *Tetractomia Lauterbachiana* that we take them to be a form of the species occurring in exposed places at high altitudes. The leaflets are much smaller with shorter petioles and there are fewer flowers in the inflorescence.

In addition to the above species which we are reasonably sure (from their descriptions) belong to *Tetractomia* Hook. f., Lauterbach, Nov. Guin. 14: 142. 1924, has suggested another, *Melicope* (*Tetractoma*) *Lamii* Lauterb., based on a flowering specimen. We merely point out that the superficial generic characters of the flowers are so alike that it is practically necessary to know the position of a young seed in the locule, to determine whether the species belongs to *Melicope* Forst. or to *Tetractomia* Hook. f. Those of the former genus show axile placentation, those of the latter are basally located.

**Acronychia** Forst.**Acronychia rhytidocarpa** sp. nov.

Arbor 4–5 m. alta; ramulis glabratis, innovationibus velutino-tomentosis; foliis trifoliolatis; petiolo 4–9.5 cm. longo, tomentoso ad glabrato; foliolis petiolulatis (petiolulis  $\pm$  7 mm. longis, minute pubescentibus), chartaceis, pellucido-punctatis, oblongo-ellipticis, basi acutis vel cuneatis, in petiolulum decurrentibus, apice breviter atque obtusissime



acuminatis, utrinque glabris, interdum costa pubescentibus; venis primariis utrinsecus 11–16, patenti-adscendentibus, marginem versus curvatis, inconspicue anastomosantibus; venulis laxe reticulatis, inconspicuis; inflorescentiis axillaribus praecipue in axillis foliorum delapsorum, 4–6 cm. longis; axi, ramulis pedicellisque minute denseque tomentosis; pedicellis fructiferis 4 mm. longis; floribus non visis; calyce breviter lobato, pubescente; petalis extus minute pubescentibus, intus ad basim pubescentibus; staminibus intus ad basim ?pilosus; fructibus apertis circiter 1.5 cm. diametro; exocarpio glanduloso, extus dense transverse rugoso.

BRITISH NEW GUINEA: Central Division, Laloki River, Rona, *Brass* 3566 (TYPE), March 1933, alt. 450 m., gully rain-forests, common (small tree 4–5 m. tall, with rather rough brown bark, and pale somewhat fleshy leaves; fruit rugose, yellow green, very glandular and secreting in the rind a yellowish viscid substance with a pungent odor).

This collection has previously been associated with *Acronychia melicopoides* F. v. Muell. Although the foliage is somewhat like that of the species mentioned, the fruits of the two are unlike. That of the Australian plant has a thicker pericarp and lacks the copious glandular secretion which is an outstanding feature of the fruit of the Papuan species.

***Acronychia elliptica* sp. nov.**

Arbor usque 15 m. alta; ramulis subteretibus, innovationibus minute pubescentibus, mox glabratis; foliis unifoliolatis; petiolo 1.5–4 cm. longo, puberulo, mox glabro; foliolo sessili, chartaceo, elliptico, 9–14 cm. longo, 4–7 cm. lato, basi cuneato, apice obtuso vel retuso, utrinque glabro, subtus minute atro-punctato; venis primariis utrinsecus  $\pm$  14, oblique patentibus, marginem versus arcuatim anastomosantibus; venulis numerosis, reticulatis, utrinque manifestis; paniculis axillaribus, 3–4.5 cm. longis; axi, ramulis pedicellisque puberulis; sepalis rotundatis, vix 1 mm. longis, puberulis; petalis 5 mm. longis, 1–1.5 mm. latis, glabris, ad basim ciliatis; staminibus 8, filamentis subulatis, basim versus dilatatis, fere ad medium dense hirsutis (pilis retrorsis), basi intus glabris; antheris ellipticis, 0.5 mm. longis; disco 0.5 mm. alto, glabro; ovario circiter 2 mm. longo, villosa; stylo 2 mm. longo, basi tantum parce villosa; stigmatibus vix incrassatis, 4-lobulatis.

BRITISH NEW GUINEA: Western Division, Daru Island, *Brass* 6309 (TYPE), March 1936, common in light rain-forest (tree about 15 m. high; bark brown, slightly fissured; flowers white; fruit not seen); Upper Wassi Kussa River (left branch), *Brass* 8643, January 1937, gallery

rain-forests (common small tree 3–4 m. high; leaf-nerves pale and conspicuous above; flowers green).

The plant superficially resembles *Acronychia laevis* Forst., but it is readily distinguished from the latter by the villous ovary. In the latter character it is like the Malaysian *A. pedunculata* (L.) Miq., yet differs in the glabrous petals and disk; the inflorescence is also much shorter.

***Acronychia goniocarpa* sp. nov.**

Arbor magna, 25 m. alta, cauli 25–40 cm. diametro; ramulis glabris, in sicco nigrescentibus, innovationibus puberulis; foliis uni- atque trifoliolatis; petiolo 3–6 cm. longo, glabro vel puberulo; foliolis petiolulatis (petiolulis 1–1.5 cm. longis), subcoriaceis, minute glanduloso-punctulatis, oblongo-ellipticis, 10–20 cm. longis, 4.5–7 cm. latis, basi subrotundato-cuneatis (lateralibus basi inaequalibus), brevissime obtuseque acuminatis vel obtusis, utrinque glaberrimis; venis primariis utrinsecus 14–18, patenti-curvatis, marginem versus arcuatim anastomosantibus, in utraque pagina subaequaliter manifestis; venulis numerosis, reticulatis, manifestis; inflorescentiis axillaribus, saepissime ex axillis foliorum delapsorum,  $\pm$  9 cm. longis pedunculo 3–4 cm. longo incluso, glabris; floribus non visis; sepalis 1 mm. longis, 2 mm. latis, ad medium connatis; disco annulari, glabro; filamentis glabris; fructibus glabris, minute glandulosis, 1.3–1.5 mm. longis, angulatis, obpyriformibus, apiculatis (stylo basi subhirtello), pericarpio in sicco irregulariter lacunosofissurato.

NETHERLANDS NEW GUINEA: 15 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh 11926, Brass 12093* (TYPE), January 1939, alt. 1780 m. and 1750 m., rain-forest of upper slopes (large canopy tree 25 m. high, 25 cm. stem-diameter [other collection 41 cm.], branchlets, petioles, and peduncles covered with a pale glaucous bloom; fruit yellow, deeply rugose).

The fruit of *Acronychia goniocarpa* somewhat resembles that of *A. acidula* F. v. Muell. but the epicarp is irregularly torn in drying. The latter species has only unifoliolate leaves.

***Acronychia melicopoides* F. v. Muell. Fragm. Phytogr. Austr. 5: 3. 1865; F. M. Bail. Queensl. Fl. 1: 209. 1899; Lauterb. Bot. Jahrb. 55: 251. 1918, Nov. Guin. 14: 144. 1924; C. T. White Contr. Arnold Arb. 4: 50. 1933.**

NETHERLANDS NEW GUINEA: Hollandia, *Brass 8955*, July 1938, alt. 20 m., rare in dry open rain-forest second growth (tree 3 m. high).

This species has already been reported by Lauterbach from Humboldt Bay. We merely add that the material cited above agrees precisely

with the Australian collections in both flower and fruit characters. The leaves of the New Guinea specimens are smaller and somewhat more glandular, the obtusely acuminate apex is distinctly recurved, and the base is acutely cuneate, usually a little narrower than in the Australian specimens.

**Acronychia Pullei** Lauterb. Bot. Jahrb. **55**: 250, 251. 1918, Nov. Guin. **14**: 144. 1924.

NETHERLANDS NEW GUINEA: 15 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh 11951, Brass 12044*, January 1939, alt. 1900 m. and 1800 m., in mossy forest on slopes (tree 6–25 m. high; fruit yellow, rugose). NORTHEASTERN NEW GUINEA: Busu River, *Clemens 6274*, May 1937, alt. 1800–2400 m. BRITISH NEW GUINEA: Central Division, Mount Tafa, *Brass 4883*, May–September 1933, alt. 2400 m., in forest regrowths (small tree with pale dull leaves and numerous white flowers).

The dried fruit is small, 5–6 mm. diameter, subglobose, flattened at the base, copiously dotted with minute glands, and roughened by irregular short clefts in the apparently fleshy pericarp. The species was described from a flowering specimen.

**Acronychia trifoliolata** Zoll. & Mor. in Zoll. Nat. Geneesk. Arch. Neerl. Ind. **2**: 585. 1845; Koord. & Val. Meded. Lands Plant. **17**: 236 (Bijdr. Boomsoort. Java **4**: 326). 1896 (as *trifoliata*).

SOLOMON ISLANDS: Guadalcanal, Sorvorhio Basin, *Kajewski 2699*, January 1932, alt. about 270 m., common in rain-forest (tree  $\pm$  22 m. high, with light gray bark, cream-colored flowers, and small yellow-green fruits citron-scented when crushed, 7 mm. long, 5 mm. diameter).

The collection compares favorably with the material from Java assigned to this species.

*Acronychia Muelleri* (Engler) W. D. Francis, Kew Bull. **1931**: 190. 1931 and *A. cauliflora* Lauterb. ought to be compared. We suspect that the latter species, Bot. Jahrb. **55**: 253, *f.* 5. 1918, is identical with the former which holds the right of priority in name. We do not care to make the reduction without the opportunity of examining the types.

*Acronychia anomala* Lauterb. Nov. Guin. **14**: 145. 1924, cannot possibly be an *Acronychia* according to the accepted generic concept. We have no specimen which fits the description, so we leave its proper disposition to others. It may prove to be an *Evodia*.

#### **Flindersia** R. Br.

**Flindersia Schottiana** F. v. Muell. Fragm. Phytogr. Austr. **3**: 25. 1862; F. M. Bail. Queensl. Fl. **1**: 241. 1899; Maiden, For. Fl. N. S. W.

2: 155. *t.* 69, 70. 1905; C. T. White, Proc. Linn. Soc. N. S. W. 46: 327. 1921.

BRITISH NEW GUINEA: Lower Fly River, east bank opposite Sturt Island, *Brass* 7991, October 1936, rain-forest, common on ridges (large canopy tree; stem spur-buttressed; bark pale brown-gray, with prominent corky lenticels; wood soft, white; leaves pale below; flowers white, sweet-scented). Previously known from Australia.

***Flindersia chrysantha* sp. nov.**

Arbor  $\pm$  23 m. alta; ramulis fuscis, lenticellatis, novellis puberulis; foliis oppositis vel suboppositis, pari- ac impari-pinnatis, 2-3-jugis; petiolo 3-4.5 cm. longo et rhachi 2.5-4.5 cm. longa glabratis; foliolis oppositis vel suboppositis, coriaceis, 6-10 cm. longis, 2-3.5 cm. latis, late lanceolatis vel falcato-oblongis, inaequilateralibus (vel terminali subaequilaterali), basi  $\pm$  rotundatis, apice acuminatis (acumine  $\pm$  1 cm. longo), petiolulatis (petiolulis  $\pm$  6 mm. longis), utrinque glabris, margine integris; costa subtus prominente; venis primariis utrinsecus 10-13, manifestis; paniculis amplis; axi, ramulis pedicellisque dense puberulis vel brevissime pubescentibus; floribus flavis; sepalis 1 mm. longis, ovatis, obtusis, glabratis, ciliolatis; petalis ellipticis, 3 mm. longis, obtusis, glabris; filamentis 2 mm. longis, prope apicem parce pilosis, antheris ovoideis cordatis, apiculatis; staminodiis longitudinem filamentorum fere aequantibus, applanatis; disco membranaceo, undulato, glabro; ovario dense pubescente, 5-loculari, stylo brevissimo (0.4 mm. longo), stigmatate depresso capitato-lobato.

NETHERLANDS NEW GUINEA: Bele River, 18 km. northeast of Lake Habbema, *Brass & Versteegh* 11128 (TYPE), November 1938, alt.  $\pm$  2300 m., frequent tree of old secondary forest (23 m. high, 30 cm. diameter; bark 5 mm. thick, brown, smooth; flowers yellow).

*Flindersia chrysantha* belongs in the same sequence with *F. laevicarpa* C. T. White, *F. Pimenteliana* F. v. Muell. and *F. Oxleyana* F. v. Muell. It seems most like the first, but the specimens are not in comparable stages of development (one flowering, one fruiting). In *F. laevicarpa* C. T. White the leaves are decurrent at the base (in *F. Oxleyana* they are narrowed at the base), and the branches of the panicle are glabrous or very thinly puberulent. The flowers of *F. Pimenteliana* F. v. Muell. are red, and the petals are pubescent outside.

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